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Field Crops
Alberta
AGRICULTURE

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Varietal Description of Danto Field Pea

Origin and breeding

Danto field pea was developed by L. Daehnfeldt A/S in Denmark, from the cross Allround x Leafless Line (English germplasm) made in 1975. Allround was selected as the female parent because of its resistance to Fusarium oxysporium race 1 and Peronospora viciae. The breeding technique was pedigree selection. Selection criteria were resistance to Fusarium root rot and downy mildew, semi-leafless plants, round green seeds, high stable yield, good straw stiffness and uniformity of variety. Seed of Danto was first bulked in 1983.

Varietal characteristics

Plant characteristics

Vines: short, 51 cm

Stem: medium length; 15 nodes present; no fasciation; medium green

Leaflets: absent, semi-leafless

Foliage: medium green

Stipules: normal

Flowers: white; straight standard base; white wings

Pods: blunt apex, short to medium length; width is medium to narrow; dark green color; curvature is absent to slight in a ventral direction; parchment covers pod

Maturity: 5 days earlier than Century

Plant height: shorter than Express

Disease reactions: Danto is susceptible to powdery mildew (Erysiphe *polygoni*) and to Ascochyta blight (*Mycrospaerella pinodes*)

Seed characteristics

Hilum: light gold

Cotyledons: green

Seed color: dark green; no mottling

Seed shape: round to irregular when dry

Seed surface: smooth

Ovules per pod: 8.2

1000 seed weight: 266 grams

Protein content: lower than that of the checks

Performance

Danto yields well under good soil moisture conditions. It outyielded Century, Titan and Princess on average over all areas tested. Danto's short vine length makes it less favorable under poor soil moisture conditions as reduced yields often result. It is large seeded and early maturing. Cooking quality is superior; color, granulation and viscosity ratings are superior to all checks, however, the protein content is lower than that of the checks.

Maintenance of breeder seed

L. Daehnfeldt A/S, Odense C., Denmark

Canadian distributor

Brett-Young Seeds Ltd.

Canadian representative

Brett-Young Seeds Ltd.

Recommended by

Prairie Registration Recommending Committee on Grain

Copies of this and related publications may be obtained from the Print Media Branch, Alberta Agriculture, 7000 - 113 Street, Edmonton, Alberta T6H 5T6 or Alberta Agriculture's District Offices.

Table 1. Yield performance (kg/ha) of Danto and check varieties, Co-operative Tests of Field Peas, 1987-1989

Locations	Number of Tests	Danto	Century	Titan	Express	Princess
Brandon	1	2234	3038	2769	2352	—
Calmar	2	5461	3013	3432	4611	4252
Camrose	1	2118	1968	2015	2032	—
Carrot River	2	1850	1401	1599	2063	975*
Fort Vermilion	2	1806	2014	1869	2182	1425
Indian Head	1	3345	3433	3624	3739	—
Melfort	2	1266	1595	1602	1801	1791*
Morden	3	1330	1276	1502	1574	1228**
Olds	1	4030	2154	2141	3508	2703**
Portage la Prairie	3	1989	1900	2195	2341	1951
Regina	2	1284	1522	1661	1525	894*
Saskatoon	1	727	853	1004	872	844
Scott	1	1820	1883	1967	2451	—
Stettler	2	4144	4600	3642	4095	3629
Vermilion	1	4344	3625	3827	5280	4028
Western Mean	25	2408	2191	2242	2581	2109 (16)
La Pocatière	1	3851	3061	2841	3690	—
New Liskeard	3	2621	3032	3026	3092	1929**
Eastern Mean	4	2929	3039	2980	3242	1929(3)
Bow Island	1	2598	3225	3147	3659	3156
Brooks	3	2784	2896	2960	3178	2563**
Outlook	2	3357	3009	3915	3116	2811*
Lethbridge	1	2051	2326	2102	2057	2110
Irrigated Mean	7	2816	2894	3137	3069	2641(5)
Overall Mean	36	2545	2422	2498	2750	2197 (24)

Note: ( ) = Number of data years in Mean

*= Yield from 1 year only **= Yield from 2 years only

Table 2. Comparative yield performance (kg/ha) of Danto and check varieties (non-irrigated vs. irrigated), Co-operative Field Pea Trials, 1987-1989

Variety	1987	1988	1989
Non-irrigated			
Danto	2252	2487	2723
Century	2251	2472	2051
Titan	2345	2556	2304
Express	2458	3029	2615
Princess	—	2293	2172
Irrigated			
Danto	2735	3020	2735
Century	3194	2670	2931
Titan	3018	2847	3312
Express	3012	3149	3043
Princess	—	2802	2914
Number of tests			
Non-irrigated	11	8	10
Irrigated	1	2	4

Table 3. Performance of Danto field pea and check varieties, Co-operative field Pea trials, 1987-1989

Characteristics	Number of tests	Danto	Century	Titan	Express	Princess*
Yield (kg/ha)						
Non-irrigated	29	2479	2243	2389	2669	2226 (18)
Irrigated	7	2816	2894	3137	3069	2641 (5)
Days to Maturity	16	90	95	95	90	80 (8)
1000 Seed Weight (g)	28	266	222	241	221	179 (17)
Vine Length (cm)	20	51	108	107	57	55 (11)
Protein (%)	23	22.7	25.1	24.1	24.4	23.4 (13)
Cooking Quality**						
Color	18	2.5	3.1	3.0	2.9	4.0 (10)
Granulation	18	2.5	3.0	3.4	3.2	4.1 (10)
Viscosity	18	9.1	18.2	18.2	16.6	23.1 (10)
Disease Reaction**						
Ascochyta Blight	3	5.1	6.3	5.7	5.6	6.7 (2)
Powdery Mildew	3	S	MS-S	MS-S	S	S (2)

*Princess was not included in 1987 trials, number in ( ) indicates test years.

**Color and granulation were subjectively evaluated on a scale of 1-5 where 1 = very good, 2 = good, 3 = average, 4 = fair and 5 = poor. A scale of 1-24 was used for viscosity, where 1 = high and 24 = low.

***All disease assessments were carried out at the Morden Research Station, Agriculture Canada, by estimating the percent area infected and transposing to a 1-9 scale, where 1 = no disease and 9 = 100 percent infection.

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